

Notice of Allowability

Application No.

09/729,900

Examiner

Jason M Perilla

Applicant(s)

GARYANTES ET AL.

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed November 12, 2004.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on 05 December 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20050302</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Martin Finston (31613) on March 2, 2005.

The application has been amended as follows:

The following version of claim 1 replaces all prior versions of the claim in the file in their entirety.

1. A method of recovering transmitted symbols in a receiver of a spread spectrum system, comprising the steps of: receiving a signal including multi-path components associated with transmitted symbols; and de-spreading successive separate portions of the received signal to provide a symbol estimate based on each multi-path component, wherein: each said successive separate portion contains at least one complete multi-path component of the transmitted symbols and at least one partial multi-path component of the transmitted symbols; the de-spreading step comprises determining, for each partial multi-path component, at least one partial symbol estimate associated with ~~of at least a one of the~~ transmitted symbols ~~for an at least one partial multi-path component contained in a separate portion~~; and the method further comprises

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summing, over two or more said successive separate portions, the partial symbol
estimates of separate portions corresponding to a same one of the transmitted symbols.

Regarding claim 2, in line 2, "each separate portion" is replaced by –each successive separate portion”.

Regarding claim 3, in line 2, "each portion" is replaced by –each successive separate portion”, "partial estimate" is replaced by –partial estimates--, and, in line 3, "a symbol" is replaced by –a same transmitted symbol--.

Regarding claim 4, in line 1, "the retrieved partial estimate is" is replaced by –the any retrieved partial estimates are--.

Regarding claim 9, in line 1, "The method claim" is replaced by –The method of claim--.

The following version of claim 10 replaces all prior versions of the claim in the file in their entirety.

10. In a receiver of a spread spectrum communication system, circuitry for recovering transmitted symbols, comprising: sample circuitry, connected to input a received signal including multi-path components of at least one symbol, for sampling successive separate portions of the received signal, each said successive separate portion containing at least one complete multi-path component of the transmitted symbols and at least one partial multi-path component of the transmitted symbols; de-

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spreading circuitry, connected to receive the successive separate portions of the received signal and for outputting a symbol estimate by determining, for each partial multi-path component, one partial symbol estimate associated with a one of the transmitted symbols ~~at least one partial estimate of at least one transmitted symbol for an at least one partial multi-path component based on each part of the contained in a separate portion; the de-spreading circuitry comprising and~~ summing circuitry for summing, over two or more said successive separate portions, the partial symbol estimates of ~~separate portions~~ corresponding to a same one of the transmitted symbols, thereby summing the partial estimates of separate portions corresponding to a same ~~transmitted symbol~~ to produce a full estimate.

Regarding claim 11, in line 2, "processing" is replaced by --de-spreading--, and, in line 3, "received signal any" is replaced by --received signal, any--.

Claim 15 is CANCELED.

Claim 16 is CANCELED.

Allowable Subject Matter

2. Claims 1-14 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Claims 1-14 are allowed because the prior art of record does not disclose or obviate a multipath receiver which processes a received signal in successive portions

wherein partial multipath portions corresponding to a same symbol contained in successive portions are stored and later retrieved to be summed into a full multipath portion. That is, the prior art of record does not disclose a processing time division rake finger wherein a partial multipath signal recovered during one processing period may be stored in a memory to be recombined with a remaining partial multipath signal recovered during a second processing period to form a full multipath signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
March 11, 2005

jmp



CHIEH M. FAN
PRIMARY EXAMINER